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(54) Title: AN INTRACARDIAC CATHETER AND METHOD OF USE

(57) **Abstract:** The invention provides a cardiac balloon catheter and methods of using the same in the process of venography in the coronary sinus and pulmonary vein of the heart. The catheter has a flexible body containing a curved distal portion, at least three lumens running the length of the body each with a port of entry at the proximal end, an inflatable balloon located proximally of the curved distal portion of the body and port of exit of at least one of the lumens located at a distal end. Optionally, the catheter may contain up to ten pairs of bipolar electrodes. The invention provides methods for using the catheter to generate a geographic map of a venous structure of the heart and to generate an electrical map of the electrical conduction patterns of the heart for locating an aberrant electrical conduction pattern. Additionally, the invention catheter can be used in placement of pacemaker leads in the left ventricle for biventricular pacing of the heart.

WO 2004/039433 A2